

Module code	TM-3303		
Module Title	Product Design for Manufacturing and Assembly		
Degree/Diploma	Bachelor of Engineering (Manufacturing Systems)		
Type of Module	Major Option		
Modular Credits	4	Total student Workload	8 hours/week
		Contact hours	4 hours/week
Prerequisite	None		
Anti-requisite	None		
Aims			
To expose students to the concept "Design for X" (DfX) that is well established within product development. Specific design guidelines have been developed to address these particular issues, or 'X': design for manufacturing and assembly, design for sustainability, and other "Design for X" criteria.			
Learning Outcomes			
<i>On successful completion of this module, a student will be expected to be able to:</i>			
Lower order :	30%	- describe the principles of design for manufacturing and assembly - relate the principles of design for manufacturing and assembly to the finished product	
Middle order :	30%	- apply principles of design to real world applications - analyse designs for sustainability	
Higher order:	40%	- visualise conceptual designs for ease of manufacturing - use the basic Design for manufacturing guidelines and general tolerance recommendations on the most popular manufacturing processes, including injection molding, machining, metal forming, casting, etc.	
Module Contents			
<ul style="list-style-type: none"> - Overview to Design for Manufacturing and Assembly - Theories, participants and plans for the design process - Design for Manufacturing and Assembly definitions and objectives - Overview of Design for Manufacturing and Assembly tools - Design for Manufacturing, Production, Assembly, Recycling/Disposal, Life Cycle and Prototyping 			
Assessment	Formative assessment	Monthly online quizzes will be used to test and to give feedback for their learning	
	Summative assessment	Examination: 40% Coursework: 60% - 2 class tests (15% each) - 3 individual assignments (10% each)	